U.S. DEPARTMENT OF COMMERCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

The Department of Commerce (DOC), through NOAA, has implemented the Executive Order by continuing to integrate cooperative conservation into the agency's management approach, with participation in cooperative conservation-specific activities undertaken at each NOAA Line Office's discretion. As such, there has not been a specific pool of resources allocated to implement the Executive Order throughout NOAA's Line Offices and programs. Instead, resources have been obtained from existing programs to further integrate cooperative conservation into individual program missions. Funding for the larger efforts of the Interagency Executive Task Force, such as support for the Listening Sessions or Cooperative Conservation website development, is provided by the NOAA Under Secretary's office.

Implementation of DOC/NOAA Cooperative Conservation Actions Initiated by the Task Force

Cooperative Conservation Competencies

NOAA has developed a plan of action to further define and validate collaboration and partnering competencies and to institutionalize these competencies as part of NOAA's culture. The NOAA Cooperative Conservation Competencies Plan outlines a strategy to: identify positions requiring cooperative conservation competencies; validate the competencies for these positions; identify current and projected skills gaps and strategies for closing these gaps; incorporate cooperative conservation competencies into hiring; design e-training for collaboration and partnering, including environmental conflict resolution; and incorporate cooperative conservation competencies into appropriate performance plans.

Environmental Conflict Resolution

In October 2005, the Office of Management and Budget (OMB) and the Council on Environmental Quality (CEQ) issued guidance to help federal agencies prevent or reduce conflicts associated with implementing national environmental protection and resource management goals. These principles have been routinely and successfully used by NOAA's Damage Assessment, Remediation, and Restoration Program (DARRP). In 2006, NOAA profiled cooperative damage assessments as a model for OMB/CEQ's Initiative on Collaborative Problem Solving and Environmental Conflict Resolution in an internal report entitled, *Environmental Conflict Resolution and Collaborative Problem Solving: The Story of NOAA's Natural Resource Damage Assessment, Remediation and Restoration Program.* The report profiles NOAA's cooperative conservation and collaborative problem solving efforts undertaken as part of the agency's responsibilities to determine the nature and extent of injuries to natural resources and the restoration action needed to reverse these losses.

Listening Sessions
DOC/NOAA Senior staff participated in the following Listening Sessions:

Spokane, Washington	Robert Lohn, Director, Northwest Regional Office, NMFS
Corpus Christie, Texas	David Sampson, Deputy Secretary of Commerce
Miami, Florida	Carlos Gutierrez, Secretary of Commerce Roy Crabtree, Director, Southwest Regional Office, NMFS
Brewer, Maine	James R. Walpole, NOAA General Counsel
Brunswick, Georgia	Conrad C. Lautenbacher, Jr., Vice Admiral, U.S. Navy (Ret.), Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator
Fairbanks, Alaska	Timothy R.E. Keeney, Deputy Assistant Secretary for Oceans and Atmosphere

Agency specific activities under the umbrella of the Cooperative Conservation Executive Order, including information regarding how these activities have affected desired outcomes of cooperative conservation efforts.

Working cooperatively with constituents, private industry, non-government organizations, academic institutions, and government agencies at all levels is routine within NOAA and predated the issuance of Executive Order 13352. Cooperative activities that specifically address "actions that relate to use, enhancement, and enjoyment of natural resources, protection of the environment, or both" take many forms and primarily are carried out within four of NOAA's Line Offices—the National Marine Fisheries Service (NMFS), the National Ocean Service (NOS), the Office of Oceanic and Atmospheric Research (OAR), and the National Weather Service (NWS).

The material provided below samples the breadth of NOAA's Cooperative Conservation portfolio. Over 40 NOAA programs reported Cooperative Conservation activities. These may be grouped into four broad categories—cooperative data collection and research; cooperative forecasting; cooperative preservation, protection and restoration; and cooperative education.

Cooperative Data Collection and Research

Cooperative Fisheries Research
NOAA engages in a wide variety of cooperative scientific investigations with the commercial and recreational sectors of the fishing industry. These studies use the knowledge of fishermen and other stakeholders to augment observations on the abundance, distribution, and ecology of managed species; improve survey and research designs; enhance fishing gear effectiveness and reduce environmental effects of fishing; minimize the catch of non-targeted organisms (e.g., non-target fish species, turtles, and birds); improve public confidence in the safety of harvested product; and build mutual understanding and respect among scientists and stakeholders. Fishermen and members of

the public involved in cooperative research gain a better understanding for and confidence in the science used in fishery management decisions.

- *By-Catch Reduction*: Off the coast of Alaska, NMFS is working with the fishing industry to develop gear modifications that allow the release of salmon from pollock trawls. Salmon and pollock occur together in Alaskan waters but require different management strategies. Cooperative studies resulted in the development of devices that significantly reduce the number of salmon taken per haul. By 2006, excluder designs reduced chinook salmon bycatch by 40 percent while lowering the pollock catch by only 2 percent. The aim of the cooperative program is to achieve a 60-80 percent reduction of salmon bycatch while keeping pollock losses to less than 5 percent. Such initiatives improve the precision of fishery harvest and conservation actions.
- *Algal Toxin Detection Kit Developed for Quileute and Quinault Tribal Nations*: NOAA's National Centers for Coastal Science (NCCOS) in partnership with the Quileute and Quinault Tribal Nations, Washington State Department of Health, University of California at Santa Cruz, California Department of Health, NOAA Northwest Fisheries Science Center, and the Olympic Region Harmful Algal Blooms Program developed a detection kit for the algal toxin, domoic acid. The kit provides a cost effective and rapid analysis method to remote field facilities in the State of Washington. Domoic acid is a neurotoxin algae produces along the west coast of the United Sates. The toxin accumulates in the food chain, poisoning humans and leading to the death of fish, seabirds, and mammals including sea otters and sea lions. The detection kits will improve decision making of when to close affected shellfish areas.

Cooperative Environmental Studies

NOAA's National Sea Grant College Program enhances the development, wise use, and conservation of the Nation's ocean, coastal and Great Lakes resources through an integrated network of Sea Grant Colleges that conduct extension, education, and applied research in all fields of marine and Great Lakes science. Each year, Sea Grant supports nearly 500 cooperative research projects investigating a variety of marine and coastal topics of local, regional and national importance.

Based on Hawaii Sea Grant research, Maui County adopted new, more effective erosion rate-based construction setback rules. Hawaii Sea Grant demonstrated that insufficient construction setback regulations and associated construction close to retreating shorelines in Maui County exacerbated beach loss and increased risk to life and property.

Estuary Information for Coastal Managers

The National Estuarine Research Reserve System is a network of protected areas established for long-term research, education and stewardship. This partnership program between NOAA and the coastal states protects more than 1.0 million acres of estuarine land and water. One component of the reserve system is the System-wide Monitoring Program (SWMP), which measures change in estuarine water quality to track the health of our Nation's coastal areas. The information gather by SWMP is used by coastal managers to make informed decisions on local and regional issues, such as "no-

discharge" zones for boats and measuring the success of restoration projects. There are currently 27 reserves in 22 coastal states and Puerto Rico, covering more than 1.3 million acres in every major coastal biogeographic region.

Pacific Coast Recreational Fisheries Program
NMFS partners with recreational fishing organizations, state fish and game departments, the Pacific Fishery Management Council, and the Pacific States Marine Fisheries Commission to address issues relating to recreational fishing. A primary function of the Pacific Coast Recreational Fisheries Program focuses on cooperation with recreational fisheries data collection efforts, the California Recreational Fisheries Survey, the Billfish Tagging Program and the Billfish Angler Survey to enhance program designs and build angler support and participation. Additionally, the Program supports projects on conservation education, ethical angling youth fishing, and marine debris reduction. In 2006, the United Pier and Shore Anglers of California, with support from NOAA, have built and installed 40 fishing line recycling bins at fishing piers and beaches in California. In addition to being unsightly, discarded line poses an entanglement hazard to aquatic organisms and coastal and marine birds.

Cooperative Forecasting

Fire Weather
NWS Fire Weather Program is a collaborative operation among federal partners to mitigate and respond to wildfires across the Nation. The program makes incident meteorologists (IMET) available to provide direct, on-site weather information to fire teams and decision support to local officials. The 2006 fire season required a record number of IMET dispatches (206).

Cooperative Preservation, Protection and Restoration

Designation of the Northwest Hawaiian Islands National Monument
On June 15, 2006, President George W. Bush created the world's largest marine conservation area off the coast of the northern Hawaiian Islands. The Northwest Hawaiian Islands National Monument is a landmark achievement for conservation, protection, and enhancement of the Northwestern Hawaiian Islands. The monument includes 4,500 square miles of relatively undisturbed coral reef habitat that is home to more than 7,000 species. Active participation of federal and state agencies led to the development of a designation plan with broad-based support. Since 2000, more than 52,000 public comments have been received, most supporting strong protection for this area. The Monument will be co-managed by NOAA, the
U.S. Fish and Wildlife Service, and the State of Hawaii.

Protecting Habitat Essential to Fish
In 2006, over 500,000 square miles of U.S. Pacific Ocean habitats were protected from damage by fishing practices, particularly bottom-trawling. Combined, these areas are more than three times the size of all U.S. National Parks. The historic protections, implemented by NOAA with the support and advice of the regional fishery management

councils, fishing industry, and environmental groups, made the protection of essential fish habitat and deep coral and sponge assemblages a significant part of management efforts to conserve fisheries in the Pacific Ocean.

- *Aleutian Islands Habitat Conservation Area*: NOAA worked collaboratively with the North Pacific Management Council, the fishing industry, and environmental groups to devise a landmark suite of new protection measures against habitat injuries caused by bottom trawling. This included establishment of the largest marine protected area in the United States - the Aleutian Islands Habitat Conservation Area, which is approximately 369,000 square miles. Additional habitats in the Gulf of Alaska slope and seamounts were also protected. These areas conserve a diverse range of habitats that support deep sea corals, productive fisheries, and marine mammals.
- *West Coast Habitat Conservation Areas*: In June 2006, NOAA and the Pacific Fishery Management Council established habitat conservation areas off the coasts of Washington, Oregon, and California, covering more than 150,000 square miles of ocean habitat. Fishing methods that can cause long-term damage to sensitive ocean floor habitats were prohibited within most of these areas. Much of the impetus to the trawl closures was to protect sensitive biogenic habitats, including deep corals and sponges.

Designation of Mission-Aransas National Estuarine Research Reserve

Mission-Aransas is the first NOAA National Estuarine Research Reserve on the Gulf Coast west of the Mississippi River, adding a previously unrepresented and important biogeographical region to the national network of 27 reserves. Forward-thinking Texas officials asked NOAA to designate a National Estuarine Research Reserve in order to establish a protected area for long-term research, monitoring, and education in support of science-based coastal management. The designation occurred in May 2006. The site includes upland streams, coastal prairies, oak mottes, mangrove forests, sea grass beds, open bays, and ocean beaches. Designation of the Mission-Aransas Reserve, the third largest reserve in the system (185,708 acres), was a multi-agency, multi-year project involving the University of Texas Marine Sciences Institute, the U.S. Fish and Wildlife Service, Texas General Land Office, Coastal Bend Bays and Estuaries Program, the Coastal Bend Land Trust, the Nature Conservancy, Fennessey Ranch, Texas Parks and Wildlife Department, and Texas Department of Transportation.

Protecting Right Whales

The right whale population numbers about 300 individuals, making it one of the world's most critically endangered species. Cooperative Conservation efforts involving NOAA, other federal agencies, non-governmental organizations, academia, and industry are attempting to reduce threats posed by the two major causes of mortality to these animals - ship strikes and entanglement in fishing gear.

- *Ship Strike Prevention*: In an effort to reduce the number of large whales that die as a result of ship strikes, NOAA added new recommended traffic routes to our nautical charts for vessels entering or departing the ports of Jacksonville and Fernandina, Florida, and Brunswick, Georgia, as well as Cape Cod Bay, Massachusetts. The recommended routes are designed to reduce ship strikes but also take into account safety of navigation and economic impact to mariners. Right whales typically travel

south in winter from waters off Canada and New England to calving and nursery areas off Florida and Georgia. In the spring, females and their calves return to feeding grounds in Cape Cod Bay. Both journeys traverse heavily used shipping lanes. The recommendations also include proposed speed restrictions of 10 knots or less in three major regions of the East Coast. The measures were developed as a result of extensive discussions with stakeholders including the shipping industry, and take into account safety of navigation, economic impacts to mariners, and needs of the whales.

- *Entanglement Reduction*: The Right Whale Research Program brings together the interest and expertise of NOAA scientists, the National Fish and Wildlife Foundation, academic researchers, private sector inventors, and the fishing industry to develop and implement new practices and equipment to reduce the likelihood of right whale entanglement in fishing gear. Vertical lines secured to bottom traps for retrieving gear pose serious threats to right whales. Between 2004 and 2006, the Right Whale Research Program supported efforts to develop vertical lines that break away if struck by an object moving through the water, such as a right whale. They have also supported efforts looking at acoustically released pop-up buoys for use when retrieving gear and business plans for converting ground lines in the Maine lobster industry from floating to non-floating lines.

Coral Reef Conservation Program Local Action Strategies

NOAA's Coral Reef Conservation Program is working with partners in seven states and territories to implement Coral Reef Local Action Strategies. The Local Action Strategies are 3-year locally-driven roadmaps for collaborative action among federal, state, territory, and non-governmental partners to identify and implement priority actions needed to reduce threats to coral reef resources. Development of the strategies involved hundreds of stakeholders and significant advanced coordination and cooperation among federal, state, and local agencies. More than 400 projects are underway in several priority threat areas, including land based pollution, over-fishing, recreational overuse, lack of awareness, and coral diseases and bleaching.

Maine Coast Protection Initiative

Development is rapidly converting Maine's rich and unique coastal landscape. Local, regional, and state groups faced a critical need for strategic conservation planning, recognizing the land protected over the next 20 years will largely determine the character of the Maine coast forever. A diverse group of traditional and nontraditional conservation groups in coastal Maine are leading an on-the-ground effort to identify regional conservation needs, articulate shared goals, identify data gaps, and develop strategic actions that are being implemented by regional and local organizations. Rather than prescribe action or direct change, NOAA facilitated collaborative planning and provided technical support, geospatial and communications expertise, training, and other services as needed. Partners included Land Trust Alliance, Maine Coast Heritage Trust, and the Maine State Planning Office.

Community-Based Restoration
In 2006, NOAA celebrated the 10-year anniversary of the Community-based Restoration Program. The program started in 1996 with a few small coastal restoration projects and now funds over 200 projects per year. The program tackles large and small-scale projects including complex dam removals and coral reef repairs. Citizen and partner involvement is the cornerstone of this highly successful program, which restored over 6,000 acres of habitat and opened 70 miles of streams for migratory fish in 2006. National and regional partners including non-profit organizations, state and local governments, and community groups provide additional leverage and expertise in implementing habitat restoration projects. Over the program's 10-year history, almost 120,000 volunteers have participated in on-the-ground restoration projects that enhance coastal and marine habitat.

One program that has had several projects funded through the Community-based Restoration Program is the Fish Friendly Farming Program in northern California. Programmatic support is provided to this program by the NMFS Southwest Region Habitat Conservation Division. The Fish Friendly Farming Program is an innovative method for implementation of environmental improvements in collaboration with private landowners. Landowners enroll their property in the program, attend a series of workshops on environmentally-friendly land management practices, and complete a detailed farm conservation plan for the property, which recommends Best Management Practices and specific conservation projects. Projects include creek and river corridor revegetation and restoration, erosion repairs on sites such as gullies and old roads and eradication of invasive, non-native plants in natural habitats. The plans and sites are reviewed and certified by regulatory agencies including NMFS Southwest Region and state agencies. The certified grower receives a letter from each agency recognizing their self-determined actions will help in species recovery and conservation of species habitats. This third party certification lends credibility to the program.

Over 50,000 acres have been enrolled in the program since 2001 resulting in numerous revegetation projects, erosion control projects related to vineyards and roads, bank stabilization projects utilizing fish friendly methods rather than rip-rap, and conversion of stream crossings to bridges. Two dam removal/modification projects are in the planning or design phase.

California Fish Passage Forum
NOAA participates in a multi-agency, multi-stakeholder collaborative known as the California Fish Passage Forum. The purpose of the forum is to identify, classify, and remediate fish passage barriers for anadromous fish in inland waters of California. The Forum has identified and inventoried many hundreds of migratory barriers at stream crossings along the California coast. Restoration programs, such as those sponsored by the NOAA Restoration Center and the California Grassroots Salmon Initiative, provide cost-share funding for these projects. NOAA staff provides engineering and technical support for new, "fish-friendly" stream crossing designs. Dozens of fish passage barriers have been rebuilt, with substantial evidence of successful fish re-colonization of upstream watersheds.

Accomplishments of the Fish Passage Forum include the California Habitat Restoration Project Database, which captures, manages, and disseminates data about habitat restoration projects in California benefiting anadromous fish. In addition to serving as a comprehensive repository for information about California habitat restoration projects, the geo-referenced project locations in the database enable geographical analyses of projects, aiding analysis of past trends and planning of future restoration work. Working with partners, the Fish Passage Forum has surveyed and identified over 13,000 migration barriers, removed 605 barriers (including culverts), opened 95 stream miles by treating or removing culverts and opened 451 stream miles by removing barriers other than culverts.

Cooperative Assessment, Integrated Remediation and Restoration of Point Comfort, Texas

Alcoa's Point Comfort Operations facility, located in Calhoun County, Texas, released mercury laden wastewater into Lavaca Bay and its underlying aquifers in the 1960s and 70s. The resulting contaminated area was added to the National Priority List of Superfund sites for clean-up in 1994. As planning for the clean-up proceeded under the Superfund Act, NOAA worked with EPA, its federal and state co-trustees, Alcoa, and local communities to assess the natural resources injuries caused by the contamination, and to develop a restoration plan to address these losses in the Lavaca Bay estuary. In this process, NOAA and its co-trustees worked together with Alcoa using collaborative problem-solving and Environmental Conflict Resolution to avoid litigation, achieve quality and timely protection and restoration outcomes, reduce transaction costs, and foster trust among stakeholders.

In 2005, a legal settlement of Alcoa's liability for natural resource damages at the site became final. The settlement provided for implementation of all planned restoration. Construction began on all restoration projects in January 2005, and was completed by August 2006. Under the settlement, Alcoa has created 70 acres of intertidal salt marsh on Aransas National Wildlife Refuge and 15 acres of new oyster reef in Lavaca Bay, and has also built new fishing piers, boat ramps, and docks. In addition, Alcoa will transfer 729 acres of and to the U.S. Fish and Wildlife Service to be preserved as part of the Aransas National Wildlife Refuge, adding to vital whooping crane habitat.

Marine Debris Removal

Every year, marine debris injures and kills marine mammals, interferes with navigation safety, impacts shipping and coastal industries, and poses a threat to human health. NOAA's Marine Debris Program has worked cooperatively to map and remove debris from around the country.

- *Chesapeake*: The NOAA Chesapeake Bay Office, in collaboration with the Marine Debris Program and Virginia Institute of Marine Science, is implementing a pilot project using side scan sonar and other remote sensing and imaging technologies to identify, map, and assess the prevalence and impacts of derelict fishing gear and other submerged debris in select areas of the Chesapeake Bay. The results of this project will be used to develop a comprehensive effort to locate and remove detrimental derelict crab pots throughout the Bay. These traps may contribute to reduced blue crab populations in the Bay.

- *Gulf of Mexico*: In response to the threat of submerged marine debris in the Louisiana, Mississippi, and Alabama coastal zones from the numerous hurricanes in 2005, NOAA is conducting hydrographic surveys and developing risk assessment guidelines for marine debris. NOAA, in cooperation with the U.S. Coast Guard and other federal and state agencies, is ensuring coordination of ongoing recovery efforts and prioritization of debris removal to restore safe navigation and reestablish commercial fishing in the region. NOAA is working collaboratively with local stakeholders and state agencies, to determine their data needs and develop methods to disseminate this information in a useful and effective manner.

Water Quality Enhancement in Mobile County, Alabama
Under a contract with the Mobile County Soil and Water Conservation District, the Mississippi-Alabama Sea Grant Program formed the Coastal Alabama Clean Water Partnership (CACWP), part of the larger Alabama Clean Water Partnership effort. The CACWP is a public/private partnership of diverse stakeholders from the coastal counties of Alabama that identify and encourage actions to improve water quality, particularly for impaired streams that do not meet water quality standards. The Partnership installed permeable concrete walks and a rain garden in Fairhope, Alabama, and completed the Juniper Creek Restoration Project, which includes innovative waste management techniques on a locally-owned dairy farm in the watershed of the drinking water source for the city of Mobile.

Cooperative Education

CoOL
As part of the Conference on Ocean Literacy (CoOL), NOAA (Education and OAR Sea Grant), in partnership with Coastal America Learning Centers and museums and aquaria, organized a series of regional fora, with on-line feeds from the national conference that allowed five regions to participate and involve stakeholders in developing ocean literacy goals for their regions.

Chesapeake NEMO
Chesapeake NEMO (Network for Education of Municipal Officials) is a developing collaborative network helping communities in the Chesapeake Bay watershed and Delmarva Peninsula foster well-planned growth, preserve water quality, and protect natural areas. This unique network, established in early 2006, provides educational outreach programs that emphasize natural resource-based land use planning and better site design. Chesapeake NEMO delivers coordinated technical assistance and leverages financial resources, helping communities implement sound land use planning and watershed protection. NOAA's Chesapeake Bay Office is the sponsor and host for this effort, which includes collaboration with the EPA, National Park Service, and the Forest Service.

Hanauma Bay Education Program
Partnering with the City and County of Honolulu, Hawaii Sea Grant formalized the Hanauma Bay Education Program at Hanauma Bay Nature Preserve to provide information on coral reef ecology, and snorkel and SCUBA diving etiquette. The information is aimed at mitigating environmental damage and creating a sense of stewardship for the one million plus people who visit the Bay each year. Three full-time and four part-time staff and a cadre of over 100 volunteers have run the program. Volunteer hours have grown from less than 4,000 a year to more than 10,000 hours.

Sea Grant Master Naturalist Program
Sea Grant's Master Naturalist Programs promote awareness, understanding, conservation, and respect of the natural world. This volunteer program provides direct classroom and hands-on trainings using science-based information and interpretive techniques to prepare students to share their knowledge with others. In return for more than 45 hours of training, participants are asked to return a minimum of 40 hours of volunteer service on approved conservation projects. Certified Master Naturalists must participate in all training classes, complete the requisite volunteer service, and share their knowledge with others to foster principles of sustainability, connectivity, and biodiversity with the purpose of assisting others to understand and respect the natural world.

EcoDiscovery Center in the Florida Keys National Marine Sanctuary
The Florida Keys National Marine Sanctuary is managed cooperatively by NOAA and the State with input from the public through the Sanctuary Advisory Council. The goal of the Sanctuary is to protect the marine resources of the Florida Keys, but it also aims to interpret the Florida Keys marine environment for the public, and facilitate human uses of the Sanctuary that are consistent with protection of this particular marine ecosystem.

In 2006, the Sanctuary celebrated the opening of the Florida Keys Eco-Discovery Center, a world-class visitor center in Key West. The Eco-Discovery Center is a cooperative effort of the Sanctuary, National Park Service, U.S. Fish and Wildlife Service, and the South Florida Water Management District. The Center features 6,000 square feet of interactive and dynamic exhibits depicting the underwater and upland habitats of the Florida Keys and surrounding ecosystem. The Center is free-of-charge for visitors and focuses on the Keys ecosystem, human interaction with the environment, and the maritime culture and history of the area.